

FREQUENCY OF PATHOGENIC MICROORGANISMS IN THE ORAL MICROBIOME OF PATIENTS POST-RADIATION THERAPY

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ABSTRACT:

Xerostomia is a potentially debilitating condition that can affect many patients undergoing radiation therapy in the head and neck region. This condition alters the oral microbioma and contributes to the development of halitosis, periodontal disease, caries of irradiation, mucositis, dysphagia, dysgeusia and glossodynia. The objective of this study was to evaluate the frequency of pathogenic microorganisms in saliva of xerostomic patients submitted to radiotherapy in the head and neck region. Saliva of 16 oncological and xerostomic patients was collected and submitted to culture methods in enriched and selective media for the quantification of total microorganisms, *Staphylococcus*, *Pseudomonas*, *Enterobacteriaceae*, *Enterococcus*, group mutans streptococci, *Lactobacillus* and *Candida* spp. A total of 20 saliva samples from healthy volunteers were used as controls. There was a higher prevalence of pathogenic microorganisms in the group of individuals submitted to radiotherapy, in relation to the healthy group (Student's test, p,5%). The increase of opportunistic pathogens with a high potential for tissue damage, such as Gram negative bacilli, *Staphylococcus* and *Enterococcus*, may increase the predisposition of oncological individuals to metastatic infections. In addition, group mutans streptococci, lactobacilli and *Candida* spp. were detected at high levels of colonization in the oral cavity of xerostomic individuals (between 10^5 and 10^7 CFUmL⁻¹), evidencing the high risk for the development of dental caries and mucositis in this group. Xerostomia associated with poor oral hygiene and immunosuppression may have influenced the results. The control of the pathogenic oral microbiota should be prioritized in xerostomic and oncological patients, aiming at the prevention of local and systemic infections, which frequently affects this population.

Keywords: microbiota, oral cavity, xerostomia, Opportunistic Infections, dental caries

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